

The Following is Claimed:

1. A remote data processing system comprising:
a data receiver for receiving a data message;
a remote software module arranged to receive the data message
5 from the data receiver, the remote software module including at least a first stage
software component cascaded with a second stage software component; and
a fault detector associated with the first software stage component
and the second software stage component to detect whether the data message or a
derivative thereof flows through at least one of the first stage software component
10 and the second stage software component.
2. The system according to claim 1 further comprising a remote status
reporter for reporting a status message on at least one of the remote software
module and hardware of the remote data processing system.
3. The system according to claim 1 further comprising a database for
15 storing detected faults, stage identifiers, and fault descriptions outputted by the
fault detector.
4. The system according to claim 1 further comprising a database for
storing status data on corresponding components of a remote data processing
system.
- 20 5. The system according to claim 1 further comprising a database, the
fault detector logging one or more error messages into the database.
6. The system of claim 1 further comprising a feedback generator
associated with the remote software module, the feedback generator receiving a
status code outputted from the remote software module and forwarding the status
25 code to a transmitter for transmission via a communications network.

7. The system according to claim 1 further comprising a feedback generator associated with the remote software module, the feedback generator generating a status code for a transmitter upon detection of a status code from the remote software module.

5 8. The system according to claim 1 wherein the fault detector has logical connections including a connection with an input of the first software stage component, an output of the first software stage component, and an output of second software stage component.

10 9. The system according to claim 8 wherein the fault detector identifies the first stage as a faulty software component if the data message is present at an input of the first stage, but not the output of the first stage.

10. The system according to claim 8 wherein the fault detector identifies the second stage as a faulty software component if the data message is present at an input of the second stage, but not the output of the second stage.

15 11. The system according to claim 8 wherein the fault detector identifies the first stage as a faulty software component if a derivative of the data message is present at an input of the first stage, but not the output of the first stage.

20 12. The system according to claim 8 wherein the fault detector identifies the second stage as a faulty software component if a derivative of the data message is present at an input of the second stage, but not the output of the second stage.

13. A method for monitoring a remote data processing system, the method comprising:

receiving a data message via a communications network;

cascading at least a first stage software component and a second stage software component to form an installed remote software module for accepting the received data message;

5 detecting the data message or a derivative at a group of logical nodes within the installed remote software module to determine flow of the data message, or a derivative thereof, between the logical nodes and, hence, flow through at least one of the first stage software component and the second stage software component; and

10 identifying a deficient software component of the installed remote software module as any of said software stage components that blocks or disrupts the flow of the data message between two adjacent logical nodes.

14. The method of claim 13 further comprising:

15 passing a status code, distinct from the status message, from at least an input of the installed remote software module to an output of the installed remote software module to indicate that the installed remote software module is operational.

15. The method of claim 13 further comprising:

20 passing a status code from at least an input of a communications network to an output of the communications network to indicate that the communications network is operational.

16. The method of claim 13 further comprising:

routing the status code from the base data processing system via the communications network to a remote data processing system associated with the installed remote software module; and

25 routing the status code from the remote data processing system to the base data processing system via the communications network to indicate that the continuity of at least one logic data path traversed by the status code.

17. The method according to claim 13 further comprising:
tapping into a logical data path between the stages to detect whether
each of the software component stages are functioning.

5 18. The method according to claim 13 further comprising:
determining that a stage immediately following the last detected
data message is at fault.

19. The method according to claim 13 further comprising:
assigning stage identifiers to distinguish one stage from another and
to identify a faulty stage.

10 20. The method according to claim 13 further comprising:
associating a fault description with the stage identifier for
transmission to a management system via a communications network.

21. The method according to claim 13 further comprising:
archiving a fault analysis report in a database associated with the
15 remote processing system.

22. A method of monitoring a business-to-business system, the method
comprising:

transmitting a status code from a base data processing system to a
remote data processing system via a communications network;

20 receiving the status code at a data receiver in the remote data
processing system;

inputting the status code into a remote software module of the
remote data processing system;

25 outputting the status code from an output of the remote software
module if the remote software module provides a logical data path of continuity to
the status code; and

transmitting the outputted status code back to the base data processing system via the communications network as feedback indicative of the proper end-to-end continuity of communications in a business-to-business environment.

- 5 23. The method according to claim 22, the method further comprising:
 storing the status code from an output of the remote software
 module as a dummy transaction in the database; and
 retrieving the status code as the dummy transaction in the database
10 and feeding the retrieved status code for transmission to the base data processing
 system if the database provides a logical data path of continuity for the status
 code.

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